

## **Single Electricity Market**

### **Capacity Payments Mechanism**

### **FCPP<sub>y</sub> and ECPP<sub>y</sub> for Trading Year 2014**

### **Decision Paper**

**20 November 2013**

**SEM-13-084**

## 1 CONTENTS

1	CONTENTS.....	2
2	PURPOSE OF CONSULTATION.....	3
3	BACKGROUND.....	3
4	TSO REPORT .....	4
5	CONSULTATION .....	5
6	RESPONSES TO CONSULTATION .....	5
7	DECISION.....	9

## 2 PURPOSE OF DECISION

The SEM Trading and Settlement Code requires the Regulatory Authorities (“**RA**s”) to determine, on an annual basis, values for certain parameters in relation to the calculation of Capacity Payments and Capacity Charges for the following year. These parameters include:

- Fixed Capacity Payments Proportion ( $FCPP_y$ ), such that  $0 \leq FCPP_y \leq 1$ ;
- Ex-Post Capacity Payments Proportion ( $ECPP_y$ ), such that  $0 \leq ECPP_y \leq (1-FCPP_y)$

## 3 BACKGROUND

In December 2006 the RAs issued a Decision Paper titled ‘Capacity Payment Factors’ ([AIP-SEM-231-06](#)). This paper sets out detail on these factors, including the proposed values for 2007. These values have been consulted upon annually since 2007, but have not been changed and are currently as follows:

$$FCPP_y = 0.3$$

$$ECPP_y = 0.3$$

The Fixed Capacity Payments Proportion (“**FCPP**”) sets the proportion of each monthly Capacity Period Payment Sum to be allocated on a fixed basis. This is based on a demand forecast and the payments are set before the start of the year.

The Ex-Post Capacity Payment Proportion (“**ECPP**”) sets the proportion of each monthly Capacity Period Payment Sum to be allocated according to the ex-post Loss of Load Probability (“**LOLP**”) in each Trading Period in the month. The payments are determined after the end of each month.

A third value, the Variable Capacity Payment Proportion (“**VCPP**”) is implicitly derived from the values of the FCPP and the ECPP. This is set such that:

$$VCPP = (1 - FCPP - ECPP)$$

i.e. since 2007 VCPP has been set at 0.4

The VCPP sets the proportion of each monthly Capacity Period Payment Sum to be allocated according to the forecast LOLP for each Trading Period in the month. These payments are determined before the start of the month.

Capacity Remuneration Mechanisms (“**CRMs**”) have been the subject of much scrutiny across Europe in 2012 and 2013. In particular the European Commission issued a consultation on generation adequacy and capacity mechanisms<sup>1</sup> and ACER has provided an opinion to the European Parliament on CRMs<sup>2</sup>. One of the messages coming from the on-going CRM consideration is that where CRMs are in place they should not distort cross border trade.

On 27 June 2013, the RAs wrote to the Transmission System Operators (“**TSOs**”) asking them to produce a report on the effectiveness of the current payment proportions and the potential impact any changes to these proportions might have.

In the report the TSOs make a number of points, including:

- For some Interconnector Users there is some positive correlation between forecast demand and their interconnector nominations, i.e. they import less at times of low demand. To a lesser extent, the same Interconnector Users’ nominations are correlated to forecast LOLP.
- However the remaining Interconnector Users show no correlation with any of the market parameters listed above.
- An analysis of the Ex-post capacity payments showed that payments are low at times of high wind generation in the SEM. This is because wind generation is an input to the outturn Loss of Load Probability calculation, i.e. there is unlikely to be a shortage of generation at times of high wind generation.
- Ex-post capacity payments are also low at times of low demand in the SEM. Demand is an input to the Loss of Load Probability calculation, i.e. there is unlikely to be a shortage of generation at time of low demand.
- High Ex-post capacity payments occurred at times of high demand and low generation margins, which is providing the correct market signal to reward generation when it is needed.
- The Ex-ante capacity payments provide an incentive to import power into the SEM, and a disincentive to export power. This could be seen as influencing economic trading on Moyle and EWIC.
- The ex-post portion of Capacity Payments appears to be providing the correct incentives and does not represent a barrier to trade. However, the ex-ante proportion could be influencing economic trading on the interconnectors. If a

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<sup>1</sup>[http://ec.europa.eu/energy/gas\\_electricity/consultations/doc/20130207\\_generation\\_adequacy\\_consultation\\_document.pdf](http://ec.europa.eu/energy/gas_electricity/consultations/doc/20130207_generation_adequacy_consultation_document.pdf)

<sup>2</sup>[http://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Opinions/Opinions/ACER%20Opinion%2005-2013.pdf](http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2005-2013.pdf)

greater proportion of the capacity payment were applied ex-post, this effect would be reduced.

- The present CPM is providing the correct signal to generators to reward generation availability at times of stress to the system; Eirgrid does not see any compelling new evidence to change the CPM proportions at this time.
- Eirgrid/SONI recommend that the appropriate way of rewarding capacity that is provided by interconnection should be considered in the design of the new market arrangements for implementing the Target Model.

## 5 CONSULTATION

After considering the analysis and recommendations made by the TSOs, as noted in their report, the RAs published a consultation on 25 September 2013 (SEM-13-064) on the values for  $FCPP_y$  and  $ECPP_y$  for 2014. Within the consultation, the RAs stated that they did not believe that there was sufficient evidence available to suggest a change from the current payment proportions.

The proposed payment proportions for 2014 were therefore:

$$FCPP_y \text{ for 2014} = 0.3$$

$$ECPP_y \text{ for 2014} = 0.3$$

The VCPP was thus implicitly proposed to be retained as:

$$VCPP_y \text{ for 2014} = 0.4$$

Responses were sought on two issues:

- Should the payment proportions for 2014 remain the same as those for 2013?
- What considerations should the RAs take into account when determining the factors for 2015?

## 6 RESPONSES TO CONSULTATION

Six responses were received to the consultation. These responses were from:

- Bord na Móna
- Energia
- Irish Wind Energy association (IWEA)

- Mutual Energy
- Power NI Energy – Power Procurement Business
- SSE

These responses are published with this decision paper. A summary of each response is provided below:

### **Bord na Móna**

Bord na Móna believes that the values of the Fixed and Ex-Post Payment proportions for year 2014 should remain unchanged from the 2013 values. The current component weighting ensures an appropriate balance between the short term signal to provide the required capacity during periods of tight capacity margin, and the longer term stability of capacity revenues necessary for generators to recover fixed costs.

Bord na Móna appreciates the Regulatory Authorities' efforts in continuing to monitor the appropriateness of the current CPM parameters and to appraise the potential impact of changes to these proportions in light of increased cross border trading.

The future publication of extended analysis (covering 12 months), covering cross border trading during both the low and high demand seasons, will provide some additional information on the possible impact of redistributing the capacity payments portions. These studies should provide empirical data which should assist the RAs in re-assessing if there is merit in changing the Ex-Post Capacity Payments Portions.

### **Energia**

Generators are unable to respond to the ex-post capacity pricing signal and its current weighting needlessly exposes generators to excessive risk akin to a lottery effect. From this perspective, the distribution allocation should be more heavily ex ante weighted.

EirGrid's analysis exploring how capacity payments influence trading on the interconnector has limitations which are self-identified to a large extent; e.g. it is based on only 2 months of data and does not account for a number of other factors that may strongly influence trading behavior.

Notwithstanding the acknowledged need for more detailed analysis there appears to be a degree of misunderstanding between correlation and causation in the interpretation of evidence presented. The following rather confident conclusion is particularly surprising and is contrary to our understanding based on IC trading:

*“The analysis seems to suggest that the ex-post proportion of Capacity Payments is providing the correct incentives, and does not represent a barrier to trade. However, the ex-ante portion, which has been as high as €7/MWh at times of wind curtailment, could be influencing economic trading on the interconnectors. If a greater proportion of the capacity payment were applied ex-post, this effect would be reduced”.*

Energia would suggest that increasing the ex-post proportion of capacity payments will only increase the ‘dead band’ in which trades do not occur.

### **Irish Wind Energy association (IWEA)**

IWEA is concerned that the correct signals are not in place to ensure that the interconnector is exporting at times of high wind, and that wind energy is being curtailed while the interconnector is importing. A more in depth analysis than that based on 2 months of data would need to be carried out to ensure an appropriate assessment and we acknowledge that there may be additional factors which merit further consideration.

IWEA supports the EirGrid/SONI recommendation that the appropriate way of rewarding capacity that is provided by interconnection should be a consideration in the design of the new market arrangements for implementing the Target Model. IWEA supports that proposal that no changes should be made to the parameters at this time without more detailed assessment being carried out and published for consultation, however IWEA requests that a more robust analysis be carried out on the impact of the Capacity Payment Mechanism Parameters on the interconnector flows which can be taken into consideration for future market changes.

### **Mutual Energy**

Mutual Energy make some observations on the paper that they hope are helpful for any future similar studies:

- It is noted that there is a correlation between high forecast demand and interconnector nominations with the suggestion that this is linked to higher capacity payments available in periods of high demand. While there may be a link here it should be noted that SMP is significantly more sensitive to demand than the Beta price (per APX) so it is natural that in periods of higher demand there will be greater arbitrage and demand for import flows to SEM
- The paper notes that the ex-ante capacity payment has been as high as €7/MWh at times of wind curtailment – it would be more interesting to see how often this type of scenario occurs. In general capacity payments are low at times of low demand so

it is not clear that tweaking the proportion of the ex-post payment could have a significant effect on trading decisions in these periods.

- An example is given of May 16<sup>th</sup> where interconnector trades did not respond to a particularly high capacity payment – in Moyle’s case the flows were scheduled to near maximum capacity for that full trading day so no significant response would have been possible.
- The paper looked at EA2 nominations – the reason for this is not clear and it would be expected that if traders were to respond to market/system events these would not be seen until the WD1 gate window.
- I think it is difficult to draw any conclusions about the impact of the ex-post/ante capacity payment proportions on nominations given the inability to reflect near-time events in SEM bids and the very limited participation in the intraday market. The overall market design/timings is a much greater factor in causing imports at times of wind curtailment than the availability of ex-ante capacity payments.

### **Power NI Energy – Power Procurement Business**

PPB supports the retention of the existing settings for the parameters  $FCPP_y$ ,  $VCPP_y$ , and  $ECPP_y$  for use in the 2014 Trading Year.

PPB considers that a more detailed study with a minimum dataset of 1 year interconnector data flow (both EWIC and Moyle) would be required to determine if the current parameters are distorting cross border trade. This would need to include a comprehensive impact assessment as the CPM rewards generators as well as interconnectors. Given that the new market arrangements are currently being designed PPB considers that it is more important to concentrate on finalising the design of the new market arrangements rather than considering making changes to the CPM parameters for 2015. It is also worth noting that day-ahead market coupling would appear to require firm ex-ante prices which conflicts with having any ex-post element of the CPM parameters.

### **SSE**

SSE believes that the current values for certain parameters used in the calculation of Capacity Payments and Capacity Charges act as a barrier to efficient use of the interconnector.

SSE make two points in response to the TSOs’ report:

- The commercial decisions underpinning the trading behaviour seen on the Interconnector is a matter for those market participants. The TSO and RAs role is to make the maximum capacity of interconnection affecting cross-border flows



available to market participants. If Interconnector Units do not respond to economic signals, that may reflect their risk management strategy, or some other commercial decision.

- While market participants estimations of the capacity payment can take demand and available generation into account through forecasts, this is not possible when generation exceeds demand in a trading period, as it does when the TSO is exporting wind. This has a significant impact on a market participant's ability to accurately estimate ex post capacity payments, and therefore represents a barrier to trade.

The current parameters (or any parameters where a substantial proportion of the capacity payment have to be inferred by market participants) can potentially restrict the amount of interconnection capacity utilisable by market participants. SSE would therefore recommend that the ex-ante payment proportion is gradually increased as the SEM moves toward full market coupling in 2016.

## 7 DECISION

Having considered the responses to the consultation, the RAs have determined, in line with the proposals contained in the consultation paper, to retain the existing settings for FCPP and ECPP for Trading Year 2014.

The payment proportions for 2014 are therefore:

$$\mathbf{FCPP_y \text{ for 2014} = 0.3}$$

$$\mathbf{ECPP_y \text{ for 2014} = 0.3}$$

The VCPP is thus implicitly retained as:

$$\mathbf{VCPP_y \text{ for 2014} = 1 - FCPP_y - ECPP_y = 0.4}$$

The RAs are minded to consider further whether making changes to the payment proportions for 2015 is appropriate. Any considerations on this matter will be cognisant of developments in other Capacity Remuneration Mechanisms across Europe and in the SEM European integration project.